

# Summary of Computer Resource Usage

April 16, 1972 - April 16, 1973

\*Cor = Core Research and Development  
C = Collaborative  
S = Service  
T = Training

| INVESTIGATOR   | DEPARTMENT/<br>INSTITUTION | PROJECT TITLE  | DIRECT GRANT OR CONTRACT SUPPORT |                                 | BR<br>Cate-<br>gory* | AMOUNT OF USAGE  |                          |                                       |                                      |        |  |
|--|----------------------------|--|----------------------------------|---------------------------------|----------------------|------------------|--------------------------|---------------------------------------|--------------------------------------|--------|--|
|  |                            |  | Identifying<br>Number            | Agency<br>Annual Amt.           |                      | BATCH<br>Minutes | Terminal Access<br>Hours | Pageminutes (K)                       | Block Storage(K)<br>(Block=2K Bytes) |        |  |
|  |                            |  |                                  |                                 |                      |                  |                          |                                       |                                      |        |  |
| Category 1 Realtime, Sponsored Research (CHARGEABLE) |                            |  |                                  |                                 |                      |                  |                          |                                       |                                      |        |  |
| Bacon, Virginia (J. Lederberg)                       | Genetics                   | GAME: Computer control of Finnigan 1015 quadrupole mass spectrometer   | NGR004                           | NASA \$ 180,000                 | C                    |                  | 573.5                    | @ \$.01 per<br>page/minute<br>702.158 |                                      | 30.850 |  |
| Bunnenberg, Edward                                   | Chemistry                  | CHEM: Development of a magnetic circular dichroism biotechnology resource.   | ---                              | Dept.<br>Funds                  | S                    |                  | .1                       | .555                                  |                                      | 1.240  |  |
| Constantinou, Christos                               | Urology                    | UROL: Investigation of upper urinary tract physiology.   | AM03548                          | NIH 63,962                      | C                    |                  | 191.0                    | 72.853                                |                                      | 2.218  |  |
| DeRazia, Joseph                                      | Nuclear<br>Medicine        | RADIOREN: Development of radioisotope techniques for the evaluation of differential kidney function.                               | ---                              | Pub.<br>Health<br>Hosp.<br>S.F. | S                    |                  | 0.0                      | 0.0                                   |                                      | .016   |  |
| DeRazia, Joseph                                      | Nuclear<br>Medicine        | CLINICAS: Coordination of computer and metabolic gas analyzer.   | NGR578                           | NASA 40,131                     | S                    |                  | 162.1                    | 96.792                                |                                      | 3.242  |  |
| Dong, Eugene   | Cardiovas-<br>cular Surg.  | PATIENT: Examination of cardiac surgery patient data.  | ---                              | Clinic<br>Budget                | S                    |                  | 591.8                    | 391.994                               |                                      | 21.148 |  |
| Dong, Eugene   | Cardiovas-<br>cular Surg.  | CLIN: General data reduction.  | HEL3108                          | NIH 329,360                     | S                    |                  | 20.6                     | 14.149                                |                                      | 4.349  |  |
| Dong, Eugene   | Cardiovas-<br>cular Surg.  | LAP: Study of the principles of mam-<br>malian heart rate control, emphasis<br>on sino-atrial node.                                | HEO8696                          | NIH 152,535                     | C                    |                  | 161.4                    | 102.392                               |                                      | 12.181 |  |
| Feigenbaum, Edward                                   | Computer<br>Science        | DENDRAL: Mass spectra analysis and<br>interpretation.  | RRO0612                          | NIH 260,999                     | C                    |                  | 881.7                    | 1110.056                              |                                      | 26.635 |  |
| Gersch, Will   | Neurology                  | CYNTHESIS: Application of time series<br>methods to problems in neurophysio-<br>logy and medicine.                                 | ---                              | Dept.<br>Funds                  | S                    |                  | 6.9                      | 6.754                                 |                                      | 0.889  |  |
| Glick, David   | Pathology                  | LASER: Laser microprobe analytical<br>system for elemental analysis of<br>microscopic biological samples.                          | GM16181                          | NIH 137,793                     | S                    |                  | 421.6                    | 228.342                               |                                      | 5.356  |  |
| Gold, Jerome   | Diagnostic<br>Radiology    | SWALLOW: Esophageal blood flow<br>studies.   | GM01707                          | NIH 135,000                     | C                    |                  | 286.7                    | 126.336                               |                                      | 28.819 |  |
| Green, Paul  | Biosciences                | AVENA: Kinetic analysis of hormones<br>affecting the growth process.   | GB28667                          | NSF 90,000                      | S                    |                  | 92.2                     | 92.470                                |                                      | 2.798  |  |
| Hanawalt, Phillip                                    | Biosciences                | TRI CARB: Use of radioisotope<br>tracers to study molecular biology of<br>cell growth and repair of damage to<br>genetic material. | GM09901                          | NIH 96,986                      | S                    |                  | 121.3                    | 73.676                                |                                      | 2.063  |  |
| Harrison, Donald                                     | Cardiology                 | CATH LAB: On-line cardiac catheteri-<br>zation data analysis; recognition of<br>abnormal EKG complexes.                            | LM00152                          | NIH 91,641                      | C                    |                  | 154.5                    | 37.323                                |                                      | 5.670  |  |
| Katis, Leslie  | Anesthesia                 | VISARP: Visual average evoked<br>potential to graded light intensity<br>as a correlation of pain threshold.                        | ---                              | Dept.<br>Funds                  | S                    |                  | .1                       | 0.140                                 |                                      | 0.420  |  |
| Kopell, Bert   | Psychiatry                 | ICON: Study of AEP's (Averaged<br>Evoked Responses) in EEG's.  | AA00498                          | HSMHA 718,697                   | S                    |                  | 0.0                      | 0.0                                   |                                      | 0.030  |  |

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| INVESTIGATOR   | DEPARTMENT/<br>INSTITUTION                | PROJECT TITLE  | DIRECT GRANT OR CONTRACT SUPPORT<br>Identifying<br>Number | Agency      | Current<br>Annual Amt. | BRR<br>Cate-<br>gory* | AMOUNT OF USAGE |                          |                             |                                       |
|--|---|--|---|-------------|------------------------|-----------------------|-----------------|--------------------------|-----------------------------|---------------------------------------|
|  |   |  |   |             |                        |                       | BATCH           | Terminal Access<br>Hours | Page Minutes (K)            | Block Storage (K)<br>(Block=2K Bytes) |
| Category 1 (cont'd.)                                     | Realtime, Sponsored Research (CHARGEABLE) |  |   |             |                        |                       | Minutes         |                          | @ \$.01 per<br>page minute  | @ \$.10 per block                     |
| Kristan, William   | Biosciences                               | DEPERKEL: Analog/digital processing of nerve impulses from swimming leech; study of nervous control of movement.                   | NS09744   | NIH         | 64,983                 | S                     |                 | 6.6                      | 2.705                       | 0.498                                 |
| Lederberg, Joshua  | Genetics                                  | EXPT: Use of a Packard liquid scintillation counter to analyze the incorporation of radiolabeled amino acids into brain.           | GMO0295   | NIH         | 153,727                | S                     |                 | 144.9                    | 89.266                      | 1.774                                 |
| Nazze, Richard   | Anesthesia                                | RENAV: Study of renal failure following general anesthesia.  | GMI8514   | NIH         | 61,166                 | S                     |                 | 268.1                    | 147.607                     | 4.298                                 |
| Pulling, Linus   | Chemistry                                 | MEPTURES: Research on the molecular basis of mental disease, involving gas chromatography.   | GMI9156   | NIH         | 153,014                | S                     |                 | 25.1                     | 9.367                       | 5.320                                 |
| Reynolds, Walter   | Genetics                                  | GAOT: Automation of mass spectrometer instrumentation system.  | NGR004  | NASA        | 180,000                | S                     |                 | 4.9                      | 0.586                       | 2.966                                 |
| Feth, Walton   | Psychiatry                                | ARR: Research into computer processing of EEG data.  | AA00498   | HSMHA       | 718,697                | S                     |                 | 139.2                    | 43.924                      | 1.161                                 |
| Simples, John  | Otolaryngology                            | SPECHPA: Analysis of speech pauses during reading in normal and aphasic children.  | NS07514   | NIH         | 157,136                | S                     |                 | 6.4                      | 1.950                       | 0.492                                 |
| Coythe, Harvey   | Psychiatry                                | SLEEP: Analysis of data from all-night sleep EEG's.  | NS10727   | NIH         | 239,937                | S                     |                 | 22.8                     | 5.985                       | 0.594                                 |
| Sokolov, Phillip   | Biosciences                               | CIRCRTEM: Study of role of central nervous system in production and maintenance of circadian rhythm.                               | GMO0365   | NIH         | 53,088                 | S                     |                 | 0.5                      | 0.170                       | 0.134                                 |
| Sussman, Howard  | Pathology                                 | LAP PAT/LARSYSO: Development of an automated data processing system for the clinical pathology laboratory of Stanford Hospital.    | ---   | Hosp. Funds | ---                    | C                     |                 | 563.1                    | 337.711                     | 6.162                                 |
| Swanson, George  | Anesthesia                                | RESPRE: Investigation of neural mechanisms which sustain ventilation in the absence of chemical stimulation.                       | GMI2527   | NIH         | 503,159                | S                     |                 | 42.1                     | 23.471                      | 0.288                                 |
| Tatton, William  | Biosciences                               | DEPERKEL: Characterization of neural circuits underlying behavior and sensory information processing in mammals and invertebrates. | NS09744   | NIH         | 64,983                 | S                     |                 | 132.3                    | 62.757                      | 0.774                                 |
|  |   |  |   |             | SUB-TOTAL              |                       |                 | 5021.5                   | 3801.489                    | 172.385                               |
| Category 2 Non-Realtime, Sponsored Research (CHARGEABLE) |   |  |   |             |                        |                       | @ \$50/hr       |                          | @ \$.017 per<br>page minute | @ \$.10 per block                     |
| Agee, Ronald   | Palo Alto Veterans Hospital               | FORCE: Study of neural mechanisms controlling posture and movement in humans.  | ---   | PAVAH       | ---                    | S                     |                 | 0.0                      | 0.0                         | 0.012                                 |
| Arnrow, Louis  | Pharmacology                              | LCCELL: Laboratory calculation of mechanisms of anti-cancer drug action.   | CA05672   | NIH         | 52,491                 | S                     |                 | 5.9                      | 5.555                       | 0.199                                 |

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|----------------------|----------------------------------|--|---|-------------|------------------------|-----------------------|------------------|--------------------------|-----------------------------|---------------------------------------|
|                      |                                  |  |   |             |                        |                       |                  | Terminal Access<br>Hours | Page/minutes (K)            | Block Storage (K)<br>(Block=2K Bytes) |
| Category 2 (cont'd.) | Non-Realtime                     | Sponsored Research (CHARGEABLE)  |   |             |                        |                       | @ \$50/hr        |                          | @ \$.017 per<br>page/minute | @ \$.10 per block                     |
| Assay/keen, Tatiana  | Urology                          | REMIN: Study of <u>renin</u> secretion mechanisms.   | AML3548   | NIH         | 63,962                 | S                     |                  | 18.6                     | 3.834                       | 0.373                                 |
| Atkinson, Martha     | Med. School Admissions Committee | FLYHIGH: Aid to Admissions Committee in selecting new medical school classes from applicants.                  | ---   | Dept. Funds | ---                    | S                     |                  | 71.5                     | 32.599                      | 6.103                                 |
| Atkinson, Martha     | Med. School Admissions Committee | MATCHES: Matching of medical students' clerkship requests with available positions.                            | ---   | Dept. Funds | ---                    | S                     |                  | 0.0                      | 0.0                         | 0.004                                 |
| Atkinson, Martha     | Med. School Admissions Committee | FINANCE: Examination of Yale medical student loan system's applicability to Stanford.                          | ---   | Dept. Funds | ---                    | S                     |                  | 18.3                     | 10.931                      | 0.048                                 |
| Austin, Melissa      | Anesthesia                       | IDS: Institutional Differences Study of post-operative procedures and results in hospitals nationwide.         | MS46-72-12  | N Acad Sci. | 574,279                | S                     |                  | 9.5                      | 9.125                       | 2.402                                 |
| Axline, Stanton      | Medicine                         | LYSCOME: Analysis of kinetics of protein turnover by tissue culture cells.                                     | AI10055   | NIH         | 33,303                 | S                     |                  | 0.0                      | 0.0                         | 0.024                                 |
| Bagshaw, Malcolm     | Radiation Therapy                | SUMMARY: Patient data storage and information retrieval; statistical programs relating to radiation dosimetry. | CA05838   | NIH         | 1,012,612              | S                     |                  | 843.8                    | 540.040                     | 38.218                                |
| Bale, Richard        | Psychiatry                       | VADPUGSA: Comparative evaluation of drug abuse treatment programs.   | MI22853   | HSMHA       | 250,515                | S                     |                  | 0.0                      | 0.0                         | 0.008                                 |
| Belt, Donald         | Otolaryngology                   | HSA: Hearing and vision screening; processing of results of tests administered to elementary school children.  | ---   | Dept. Funds | ---                    | S                     |                  | 37.8                     | 67.664                      | 4.836                                 |
| Belt, Donald         | Otolaryngology                   | SEC: Vision screening  | ---   | Dept. Funds | ---                    | S                     |                  | 0.0                      | 0.0                         | 0.002                                 |
| Biggs, Suzanne       | Pharmacology                     | REGRESS: Analysis of membrane proteins.  | GM00322   | NIH         | 157,551                | S                     |                  | 1.2                      | 0.652                       | 0.275                                 |
| Blake, David         | Community and Preventive         | AIR POL: Student study of correlation between incidence of air pollution and respiratory disease.              | GY9654  | NSF         | 12,790                 | S                     |                  | 16.6                     | 5.541                       | 0.042                                 |
| Bodmer, Walter       | Genetics                         | POPCEN: Human white blood cells and population genetics.   | NS10711   | NIH         | 93,336                 | S                     |                  | 6.8                      | 5.722                       | 0.888                                 |
| Brown, Byron         | Biostatistics                    | RESEARCH: Computations in support of development of new biostatistical techniques.                             | RR05353   | NIH         | 133,817                | S                     |                  | 11.9                     | 5.038                       | 2.017                                 |
| Brown, Byron         | Anesthesia                       | MAASS: Measurement of frequency of surgery in various socioeconomic groups.                                    | ---   | Comm. Weal. | ---                    | S                     |                  | 93.0                     | 32.373                      | 2.806                                 |
| Brown, Byron         | Biostatistics                    | BIOSTAT: Computations in support of Dept. of Anesthesia research projects.                                     | GM12527   | NIH         | 503,159                | S                     |                  | 44.0                     | 15.052                      | 2.200                                 |

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|----------------------|----------------------------|---|---|-------------|------------------------|-----------------------|------------------|-----------------------------|---------------------------------------|
|                      |                            |   |   |             |                        |                       | BATCH<br>Minutes | Terminal Access<br>Hours    | Block Storage (K)<br>(Block=2K Bytes) |
| Category 2 (cont'd.) | Non-Realtime               | Sponsored Research (CHARGEABLE)   |   |             |                        |                       | @ \$50/hr        | @ \$.017 per<br>page/minute | @ \$.10 per block                     |
| Brown, Byron         | Biostatistics              | STUDENT: Teaching use of ACME in Community and Preventive Medicine courses.   | RR05353   | NIH         | 133,817                | T                     | 26.5             | 7.062                       | 0.357                                 |
| Brown, Byron         | Biostatistics              | CLASS: Classwork for course in biostatistics.   | RR05353   | NIH         | 133,817                | T                     | 56.6             | 29.804                      | 5.744                                 |
| Brown, Byron         | Biostatistics              | CONSULT: Biostatistical computations in support of many medical research projects.  | RR05353   | NIH         | 133,817                | S                     | 146.0            | 52.158                      | 5.946                                 |
| Brown, Byron         | Anesthesia                 | JOBST: Analysis of EKG data.  | HL10202   | NIH         | 158,349                | S                     | 52.1             | 22.352                      | 5.335                                 |
| Fritlag, Douglas     | Biochemistry               | ULTRA: Studies of the role of divalent metal ions in the reaction mechanism of the enzyme DNA polymerase.   | GM07591   | NIH         | 313,398                | S                     | 1.3              | 1.084                       | 0.134                                 |
| Euchanan, Bruce      | Computer Science           | DETERAL: Mass spectra analysis and interpretation.  | RR06612   | NIH         | 260,999                | C                     | 378.3            | 305.966                     | 35.437                                |
| Euchanan, Bruce      | Computer Science           | STAT: Statistical demonstration programs for a course in biostatistics.   | GM01922   | NIH         | 301,996                | T                     | 201.6            | 100.213                     | 0.723                                 |
| Eisenberg, Edward    | Chemistry                  | CHT: Development of a magnetic circular dichroism biotechnology resource.   | ---   | Dept. Funds | ---                    | S                     | 51.2             | 20.143                      | 1.174                                 |
| Fetler, Edmund       | Urology                    | UROGENIC: Urology operative statistics information and retrieval program.   | ---   | Dept. Funds | ---                    | S                     | 5.0              | 5.014                       | 0.981                                 |
| Gann, Howard         | Pediatrics                 | GUAT: Population genetics studies of Mayan Indians of Guatemala.  | GM15593   | NIH         | 21,668                 | S                     | 250.9            | 102.842                     | 22.374                                |
| Cavalli, Luca        | Genetics                   | LADPA: Data analysis on population Genetics.  | AT(04-3)<br>326PA332                                      | AEC         | 32,000                 | S                     | 129.9            | 72.586                      | 3.130                                 |
| Cavalli, Luca        | Genetics                   | MAEK: Analysis of pygmy anthropometric and demographic data; simulation of genetic drift and selection models.                                    | AT(04-3)<br>326PA332                                      | AEC         | 32,000                 | S                     | 0.1              | 0.010                       | 0.003                                 |
| Cavalli, Luca        | Genetics                   | PAVIA: Population genetics: evolutionary rate, patterns of inheritance in behavioral traits, analysis of record linkage and pedigree information. | AT(04-3)<br>326PA332                                      | AEC         | 32,000                 | S                     | 291.2            | 155.782                     | 1.787                                 |
| Cavalli, Luca        | Genetics                   | JUDY: Text editing for population Genetics research.  | AT(04-3)<br>326PA332                                      | AEC         | 32,000                 | S                     | 0.0              | 0.011                       | 0.018                                 |
| Cavalli, Luca        | Genetics                   | KEN: Analysis of genetic models of disease; simulation programs.  | AT(04-3)<br>326PA332                                      | AEC         | 32,000                 | S                     | 11.8             | 3.185                       | 0.028                                 |
| Chan, Pin Chu        | Radiobiology               | GROWTH: Simulation of cellular population growth pattern.   | CA04542   | NIH         | 34,928                 | S                     | 18.6             | 8.653                       | 0.252                                 |

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|----------------------|----------------------------|--|---|-------------------|------------------------|-----------------|------------------|--------------------------|---------------------------------|--------------------------------------|
|                      |                            |  |   |                   |                        |                 | BATCH<br>Minutes | Terminal Access<br>Hours | TIME SPACING<br>Pageminutes (K) |                                      |
| Estery, J. (cont'd.) | Non-Realtime               | Sponsored Research (CHARGEABLE)  |   |                   |                        |                 | @ \$50/hr        |                          | @ \$.017 per<br>pageminute      | @ \$.10 per block                    |
| Chase, Robert        | Surgery                    | CRPAC: Evaluation of facial growth<br>in cleft palate children and<br>determination of velopharyngeal<br>competence.   | DE02803   | NTH               | 31,434                 | S               |                  | 0.0                      | 0.0                             | 0.516                                |
| Clausen, Mary        | Pediatrics                 | NUTRITIO: Clinical aspects of con-<br>genital malformations, human<br>nutrition, genetic diseases, and<br>biomechanical aspects of growth and<br>development.  | HD02147   | NTH               | 304,045                | S               |                  | 30.7                     | 9.720                           | 0.312                                |
| Clifton, Raymond     | Psychiatry                 | CONVERAII: Effect of steroids and<br>hormones on RNA activity of the<br>brain.   | ---   | Common-<br>wealth | ---                    | S               |                  | 0.0                      | 0.0                             | 1.230                                |
| Cohen, Stan          | Clinical<br>Pharmacology   | DEMGALPT: Computerized system to<br>warn of interactions of drugs<br>administered to patients.   | HS00739   | NTH               | 250,944                | C               |                  | 552.4                    | 378.354                         | 55.888                               |
| Conner, Robert       | Psychiatry                 | RATRACE: Relation of neuroendocrine<br>function to behavior.   | HD02881   | NTH               | 205,688                | S               |                  | 67.4                     | 59.916                          | 0.793                                |
| Corney, Richard      | Biosciences                | EAZY: Radioactive annealed RNA<br>bound to RNA in nitrocellulose<br>filters.   | CM00158   | NTH               | 124,155                | S               |                  | 2.1                      | 0.576                           | 0.033                                |
| Dille, Jeannette     | Immunology                 | CYTOTOX: Study of murine trans-<br>plantation antigens on various<br>tissues; description of biological<br>and biochemical characteristics of<br>the soluble transplantations from<br>these tissues. | AM05425   | NTH               | 94,506                 | S               |                  | 24.4                     | 17.423                          | 0.166                                |
| Dirks, Julie         | Psychiatry                 | PERNO: Analysis of normal subjects'<br>average evoked responses to pictures<br>of nudes.   | MH19918   | HSMHA             | 77,702                 | S               |                  | 0.1                      | 0.022                           | 0.819                                |
| Doering, Charles     | Psychiatry                 | NAPROCON: Statistical analysis and<br>quality control of hormone assays.   | ---   | Common-<br>wealth | ---                    | C               |                  | 45.9                     | 13.596                          | 0.333                                |
| Doering, Charles     | Psychiatry                 | DEMOGLAS: Investigation of the<br>biochemical connection between<br>hormones and stress.   | ---   | Common-<br>wealth | ---                    | S               |                  | 1.0                      | 0.428                           | 0.377                                |
| Draze, Karl          | Psychiatry                 | NEUROPSY: Analysis of neurophysio-<br>logical and neurobehavioral data,<br>including power spectrum analysis of<br>EEG's.  | MH12970   | HSMHA             | 242,645                | S               |                  | 0.0                      | 0.0                             | 0.156                                |
| Feizmar, Marcus      | Biosciences                | POPYMET: Modelling of genetic<br>processes and ecological systems.   | ---   | Dept.<br>Funds    | ---                    | S               |                  | 1.9                      | 0.840                           | 0.033                                |
| Fletcher, Grant      | Anesthesia                 | DIALYSIS: Statistical analysis of<br>lab results of in vivo and in vitro<br>studies of uptake, metabolism and<br>elimination of sedative drugs.  | ---   | Dept.<br>Funds    | ---                    | S               |                  | 0.3                      | 0.204                           | 0.000                                |
| Forrest, William     | Anesthesia                 | DATA: Development of an inexpensive<br>system of quality and quantity<br>control of large amounts of clinical<br>data.   | ---   | Dept.<br>Funds    | ---                    | S               |                  | 0.0                      | 0.0                             | 0.024                                |

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|----------------------|----------------------------|---|----------------------------------|-----------------------|----------------------|-------------------|--------------------------|-----------------------------|------------------------------------|
|                      |                            |   | Identifying<br>Number            | Agency<br>Annual Amt. |                      | LAUNCH<br>Minutes | Terminal Access<br>Hours | Page/minutes (K)            | Flock Storage<br>(Blocks=2K Bytes) |
| Category 2 (cont'd.) | Non-Realtime               | Sponsored Research (CHARGEABLE)   |                                  |                       |                      | @ \$50/hr         |                          | @ \$.017 per<br>page/minute | @ \$.10 per block                  |
| Forrest, William     | Anesthesia                 | SURGICAL: Maintenance of records on surgical operations; source of data for reports on these operations.  | ---                              | PAVAH                 | S                    | ---               | 33.9                     | 19,547                      | 3,077                              |
| Forrest, William     | Anesthesia                 | ANALGESIC: Development of an inexpensive system of quality and quantity control of large amounts of clinical data.                              | GM12527                          | NIH                   | S                    |                   | 101.3                    | 38,956                      | 25,488                             |
| Forkes, William      | Regional Medical Program   | ANALYSIS: Analysis of data from registry of stroke patients.  | CCRMP                            | CCRMP                 | S                    |                   | 20.3                     | 10,332                      | 1,453                              |
| Forkes, William      | Regional Medical Program   | STROKE: Development of a countywide registry for stroke patients in Santa Cruz County; development of a population base for study and analysis. | CCRMP                            | CCRMP                 | S                    |                   | 17.7                     | 11,636                      | 13,577                             |
| Frenster, John       | Oncology                   | DERMATOS: Leukemia research: probes of nuclear chromatin in living human bone marrow cells to determine their activity in gene de-repression.   | CA10174                          | NIH                   | S                    |                   | 0.6                      | 0.126                       | 0.016                              |
| Fries, James         | Immunology                 | DATABANK: Establishment of a large clinical databank of time-oriented patient records; exploration of multiple uses of the stored information.  | AI11313                          | NIH                   | C                    |                   | 345.1                    | 152,274                     | 37,036                             |
| Furber, John         | Ophthalmology              | EYE LAB: Storage of patient data for Division of Ophthalmology.   | ---                              | Dept. Funds           | S                    |                   | 0.0                      | 0.0                         | 0.03                               |
| Goldstein, Avram     | Pharmacology               | MARCO: Mechanism of the action of narcotics and the fundamental aspects of narcotic addiction.  | DA00026                          | HSMHA                 | S                    |                   | 21.3                     | 4,471                       | 1,166                              |
| Goldstein, Avram     | Pharmacology               | OFFSTUFF: Study of methadone maintenance programs for heroin addicts.   | MT18960                          | HSMHA                 | S                    |                   | 349.9                    | 183,642                     | 17,927                             |
| Goldstein, Lora      | Pharmacology               | BARB: Establishment of essential parameters for enzyme kinetics in inhibition of flavin enzymes by barbiturates.                                | DA00249                          | HSMHA                 | S                    |                   | 92.8                     | 53,445                      | 1,604                              |
| Grant, Scott         | Ophthalmology              | CORNEA: Simulation of light scattering by the cornea using electromagnetic theory.  | EY00431                          | NIH                   | S                    |                   | 5.2                      | 1,812                       | 0.134                              |
| Greenberg, Peter     | Hematology                 | CCPASSAY: Evaluation of factors regulating granulopoiesis in human disease states.  | CA13141                          | NIH                   | S                    |                   | 48.9                     | 19,921                      | 0,738                              |
| Gress, Harry         | Mathematics                | EVOL: Genetics research: model simulation using various values of mutation rate population size and mutant fitness distribution.                | GM10452                          | NIH                   | S                    |                   | 2.6                      | 4,882                       | 0,370                              |

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| INVESTIGATOR            | DEPARTMENT/<br>INSTITUTION | PROJECT TITLE  | DIRECT GRANT OR CONTRACT SUPPORT<br>Identifying<br>Number | Agency           | Current<br>Annual Amt. | BRR<br>Cate-<br>gory* | AMOUNT OF USAGE  |                          |                             |                                       |
|-------------------------|----------------------------|--|---|------------------|------------------------|-----------------------|------------------|--------------------------|-----------------------------|---------------------------------------|
|                         |                            |  |   |                  |                        |                       | BATCH<br>Minutes | Terminal Access<br>Hours | Page/minutes (K)            | Block Storage (K)<br>(Block-2K Bytes) |
| Caterbury, E. (cont'd.) | Non-Realtime               | Sponsored Research (CHARGEABLE)  |   |                  |                        |                       | @ \$50/hr        |                          | @ \$.017 per<br>page/minute | @ \$.10 per block                     |
| Hart, George            | Radiobiology               | PADIATE: Simulation of kinetics of mammalian cell proliferation; design of theoretical dose scheduling for leukemia treatment.   | CA00542   | NIH              | 34,928                 | S                     |                  | 10.7                     | 4.569                       | 1.507                                 |
| Harburg, Beatrice       | Psychiatry                 | PEER: Data storage and analysis for a peer group counseling program among secondary school students.                             | MHL3032   | HSNHA            | 66,438                 | S                     |                  | 84.2                     | 19.851                      | 0.546                                 |
| Hannigan, John          | Drew Health Center         | DREWVAL: Study of a multiphasic health screening program: its effectiveness, community response, etc.                            | ---   | Drew Med. Clinic | ---                    | S                     |                  | 20.8                     | 17.109                      | 1.073                                 |
| Herzenberg, Leonore     | Gyn/Ob                     | STORE/LAB/FIGGY: Immunology, genetics and maternal-fetal immunologic relationships in the mouse.                                 | HD01287   | NIH              | 55,769                 | S                     |                  | 189.6                    | 91.426                      | 4.044                                 |
| Helmeland, Larry        | Computer Science           | DENDRAL: Naas spectra interpretation and analysis.   | BRO0612   | NIH              | 260,999                | C                     |                  | 1.7                      | 1.458                       | 0.787                                 |
| Hogness, David          | Biochemistry               | OREGON R: Analysis of DNA fragments from Drosophila melanogaster.  | GM20158   | NIH              | 96,051                 | S                     |                  | 22.9                     | 9.138                       | 1.875                                 |
| Jarison, Rex            | Nephrology                 | MICROPUN: Basic mechanisms of salt and water transport in kidney.  | ---   | Marble Fdn.      | ---                    | S                     |                  | 60.3                     | 22.045                      | 1.033                                 |
| Jazvinski, Stanislaw    | Biochemistry               | MEMBRANE: Characterization of membrane-bound phospholipase; data obtained from enzyme assays, multi-channel separations, etc.    | GM07581   | NIH              | 313,398                | S                     |                  | 0.0                      | 0.0                         | 0.240                                 |
| Jones, Stephen          | Radiology                  | LYMPHOMA: Statistical study of various groups and sub-groups of non-Hodgkins lymphoma patients.                                  | CA08122   | NIH              | 286,562                | S                     |                  | 9.8                      | 10.214                      | 0.770                                 |
| Karibana, Ryoko         | Psychiatry                 | ETHANOL: Data analysis for neuroendocrine research on hormones and stress.   | GB31099   | NSF              | 52,000                 | S                     |                  | 38.4                     | 11.047                      | 0.541                                 |
| Kallman, Robert         | Radiobiology               | SURVIVAL: Analysis of data relating the survival of experimental tumor cells to the dose of irradiation received by the cells.   | CA03353   | NIH              | 10,220                 | S                     |                  | 0.0                      | 0.040                       | 0.144                                 |
| Kalman, Sumner          | Pharmacology               | DIGEMINE: Routine calculation of daily assays of plasma, urine, and other biological fluids containing digoxin.                  | HE13618   | NIH              | 40,595                 | S                     |                  | 134.1                    | 54.902                      | 2.027                                 |
| Kessler, Seymour        | Psychiatry                 | MATCOPED: Analysis of mating speed experiments.  | GB31099   | NSF              | 52,000                 | S                     |                  | 10.9                     | 3.463                       | 0.003                                 |
| Kirschaid, Randy        | Pharmacology               | CHEMOTAX: Computer analysis of chemotaxis.   | GM00322   | NIH              | 157,551                | S                     |                  | 43.4                     | 13.767                      | 1.241                                 |
| Klyce, Steve            | Ophthalmology              | EPITHELI: Research on ion transport processes across the corneal epithelium to determine how epithelium maintains its hydration. | EY00915   | NIH              | 69,171                 | S                     |                  | 67.4                     | 34.725                      | 1.553                                 |

## SUMMARY OF COMPUTER RESOURCE USAGE

\*Cor = Core Research and Development  
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| INVESTIGATOR           | DEPARTMENT/<br>INSTITUTION | PROJECT TITLE  | DIRECT GRANT OR CONTRACT SUPPORT |                       | BRR<br>Category | AMOUNT OF USAGE             |                     |                                       |
|------------------------|----------------------------|--|----------------------------------|-----------------------|-----------------|-----------------------------|---------------------|---------------------------------------|
|                        |                            |  | Identifying<br>Number            | Agency<br>Annual Amt. |                 | Terminal<br>Access<br>Hours | Page<br>minutes (K) | Block Storage (K)<br>(Block=2K Bytes) |
| Category 2 (cont'd.)   | Non-Realtime               | Sponsored Research (CHARGEABLE)  |                                  |                       |                 |                             |                     |                                       |
| Kramer, Helena         | Psychiatry                 | PCYSTAT: Analysis of data from various psychiatric research projects.  | ---                              | Dept.<br>Funds        | S               | 94.5                        | 34,729              | 6,330                                 |
| Kriss, Joseph          | Nuclear<br>Medicine        | ASCAY: Studies on the pathogenesis of Graves' disease, the effects of X-ray therapy on thyroid function, and the pathogenesis of other endocrine disorders associated with autoimmunity. | AM07642                          | NIH                   | S               | 135.8                       | 45,067              | 1,840                                 |
| Kriss, Joseph          | Nuclear<br>Medicine        | BLINMOD: Calculation of plasma volume, blood volume, red cell mass, red cell life span, iron turnover and renal clearance in patients who receive radioactive tracer material.           | AM07642                          | NIH                   | S               | 0.2                         | 0.048               | 0.048                                 |
| Lach, Emmett           | Gyn/Ob                     | REFPES: Calculation of relative potency and confidence limits of total gonadotropin activity of human urine extracts.  | ---                              | Dept.<br>Funds        | S               | 62.8                        | 33,252              | 0.848                                 |
| Leiderberg, Marguerite | Pediatrics                 | MACY: Study of women MD's: socioeconomic and family impact on their careers.   | ---                              | Dept.<br>Funds        | S               | 0.0                         | 0.0                 | 0.014                                 |
| Letman, I. Robert      | Biochemistry               | ITMACP: Studies of the enzymatic mechanism of the DNA Ligase of E. coli.   | GM06196                          | NIH                   | S               | 26.2                        | 8,324               | 0.214                                 |
| Leiderman, P. Herbert  | Psychiatry                 | FFPMIE: Study of human maternal behavior relating the degree of interaction between mother and infant in the post-partum period to later maternal attachment and infant development.     | ---                              | Grant<br>Fdn.         | S               | 24.3                        | 9,564               | 1,222                                 |
| Leiderman, P. Herbert  | Psychiatry                 | KENYA: Analysis of data collected in Kenya, relating the effect of social structure of primary family on infants' social attachments in the first year of life.                          | RR05553                          | NIH                   | S               | 54.8                        | 18,864              | 4,024                                 |
| Lucas, Zoltan          | Surgery                    | KIDTRANS: Tabulation of survival data for renal transplant patients.   | ---                              | Dept.<br>Funds        | S               | 2.4                         | 1.167               | 1,301                                 |
| Metzger, John          | Metabolism                 | BYOPEP: Secretion and metabolism of adrenal hormones; identification of curable forms of hypertension.   | REL3917                          | NIH                   | S               | 129.6                       | 38,328              | 2,104                                 |
| Maffly, Roy            | Metabolism                 | CO2: Sodium transport; predictive value of tests for blood urea nitrogen and decreased serum sodium concentration.   | AM16367                          | NIH                   | S               | 98.1                        | 40,664              | 1,072                                 |
| Maffly, Roy            | Metabolism                 | TEACH: Teaching programs for students and staff; evaluation of patients' acid-base disorders; displayed on Beehive terminal and projected onto large screen for class use.               | ---                              | Dept.<br>Funds        | T               | 264.5                       | 228,115             | 7,930                                 |



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|----------------------|--------------------------------------|---|---|----------------|------------------------|-----------------------|------------------|--------------------------|---------------------------------|---------------------------------------|
|                      |                                      |   |   |                |                        |                       | BATCH<br>Minutes | Terminal Access<br>Hours | Time Sharing<br>Pageminutes (K) | Block Storage (K)<br>(Block=2K Bytes) |
| Category 2 (cont'd.) | Non-Healthing                        | Sponsored Research (CHARGESABLE)  |   |                |                        |                       | @ \$50/hr        |                          | @ \$.017 per<br>pageminute      | @ \$.10 per block                     |
| Waffly, Roy          | Metabolism                           | SERUM: Analysis of blood serum<br>electrolytes from ion-specific<br>electrodes.   | 72875   | Am.<br>Heart   | 63,690                 | S                     |                  | 1.2                      | 0.650                           | 0.040                                 |
| McConnell, Harden    | Chemistry                            | ABSORB: Paramagnetic resonance<br>spectra research; hemoglobin mita-<br>tions, fluidity of membranes, electro-<br>chemical potential of membranes.                        | GB33501X  | NSF            | 65,000                 | S                     |                  | 282.9                    | 115.109                         | 6.744                                 |
| McDevitt, Hugh       | Immunology                           | MARGALO: Calculation of the antigen-<br>binding activity of antisera from<br>mice immunized with various branched<br>multichain synthetic polypeptide<br>antigens.        | A107757   | NIH            | 159,606                | S                     |                  | 34.9                     | 11.586                          | 0.175                                 |
| Melen, Robert        | Electronics<br>Lab                   | ISUCHROM: Development of a system<br>of automatic classification of human<br>chromosomes.   | N0044   | Navy           | 465,000                | S                     |                  | 3.1                      | 0.837                           | 1.104                                 |
| Melges, Frederick    | Psychiatry                           | TEMPO: Study of psychotic processes;<br>especially relating changes in<br>temporal experience to psychopatho-<br>logical symptoms.  | AA00498   | HSNHA          | 718,697                | S                     |                  | 106.0                    | 26.925                          | 4.031                                 |
| Miller, Craig        | Cardiology                           | CAB: Development of risk/benefit<br>guidelines for saphenous vein -<br>coronary artery bypass surgery.  | HL05709   | NIH            | 63,346                 | S                     |                  | 39.8                     | 35.031                          | 2.692                                 |
| Miller, Rupert       | Statistics                           | THESES: Biostatistical computing by<br>graduate students for theses or<br>other educational use.  | GM00025   | NIH            | 90,614                 | T                     |                  | 5.6                      | 1.569                           | 0.195                                 |
| Miller, Rupert       | Statistics                           | COURSES: Computing done by staff in<br>connection with the teaching of<br>biostatistics.  | GM00025   | NIH            | 90,614                 | T                     |                  | 0.0                      | 0.0                             | 0.048                                 |
| Miller, Warren       | Psychiatry                           | ECI: Analysis of self-report psychi-<br>atric inventory questionnaire.  | ---   | Dept.<br>Funds | ---                    | S                     |                  | 6.8                      | 2.405                           | 0.376                                 |
| Minari, Roland       | Surgery                              | RSP: Evaluation of respiratory<br>studies as a measure of velopharyn-<br>geal incompetence, comparing it with<br>age, cine-fluorographic results,<br>operation, and time. | DB02803   | NIH            | 31,434                 | S                     |                  | 12.8                     | 3.922                           | 0.665                                 |
| Morris, Randall      | Surgery                              | CTX: In vitro assay of transplanta-<br>tion immunity aimed at development<br>of a superior immunosuppressive<br>protocol.   | GM01922   | NIH            | 301,996                | S                     |                  | 1.0                      | 0.233                           | 0.204                                 |
| Myers, Woodrow       | Youth Oppor-<br>tunities<br>Programs | IMPREP: Introduction to computing<br>for minority pre-med students.   | ---   | Dept.<br>Funds | ---                    | T                     |                  | 50.2                     | 17.745                          | 0.063                                 |
| Nall, Leslie         | Dermatology                          | PSORIASI: Psoriasis research.   | ---   | Dept.<br>Funds | ---                    | S                     |                  | 0.0                      | 0.0                             | 0.060                                 |
| Nye, William         | Medical<br>Microbiology              | STRUCTUR: Statistical calculations<br>and bibliography compilations in the<br>field of immunochimistry.   | A100082   | NIH            | 152,418                | S                     |                  | 42.8                     | 6.344                           | 0.681                                 |

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| INVESTIGATOR         | DEPARTMENT/<br>INSTITUTION | PROJECT TITLE  | DIRECT GRANT OR CONTRACT SUPPORT |        | BRR<br>Cate-<br>gory* | AMOUNT OF USAGE        |                  |                            |                   |                                      |
|----------------------|----------------------------|--|----------------------------------|--------|-----------------------|------------------------|------------------|----------------------------|-------------------|--------------------------------------|
|                      |                            |  | Identifying<br>Number            | Agency |                       | Current<br>Annual Amt. | BATCH<br>Minutes | Terminal Access<br>Hours   | Pageminutes (K)   | Block Storage(K)<br>(Block=2K Bytes) |
|                      |                            |  |                                  |        |                       |                        |                  |                            |                   |                                      |
| Category 2 (cont'd.) | Non-Realtime               | Sponsored Research (CHARGEABLE)  |                                  |        |                       | @ \$50/hr              |                  | @ \$.017 per<br>pageminute | @ \$.10 per block |                                      |
| Ordal, John          | Immunology                 | ALGERNON: Calculation of antigen-binding activity of antisera from mice immunized with various branched multichain synthetic polypeptide antigens.   | GM01922                          | NIH    | S                     | 304,996                |                  | 4.2                        | 1,304             | 0.252                                |
| Ostrom, Dennis       | Biochemistry               | GLYCIPHS: Enzyme research on glycolysis: kinetics of subunit association, ultra-centrifuge experiments, and amino acid analysis.   | GM03235                          | NIH    | S                     | 174,410                |                  | 76.2                       | 65,192            | 0.826                                |
| Payne, Rose          | Hematology                 | SERIAL: Extension and classification of leukocyte and/or tissue antigens by serologic and genetic analysis of specific human antisera.   | HE03365                          | NIH    | S                     | 85,632                 |                  | 36.0                       | 33,945            | 5.353                                |
| Pfendt, Eva          | Medical Microbiology       | CANVIRTU: In vitro studies of human tumors.  | NCI-E-69-2053                    | NIH    | S                     | 172,369                |                  | 17.2                       | 13,971            | 0.556                                |
| Ray, Wolfgang        | Gastroenterology           | CUDINLIN: Immunological determination of the gastric antigenic esterase VI A in gastric juices of patients with gastric diseases.  | AM06971                          | NIH    | S                     | 97,829                 |                  | 0.0                        | 0.0               | 0.210                                |
| Reaven, Gerald       | Metabolism                 | PAT DATA: Risk factors in coronary heart disease; modeling of metabolite action important in diabetes mellitus and atherosclerosis; inpatient data on metabolic disorders; participation in nationwide clinical trial of "lipid hypothesis". | HL14174                          | NIH    | S                     | 620,030                |                  | 849.7                      | 414,699           | 35.313                               |
| Reaven, Gerald       | Metabolism                 | PROINFC: Study of prevalence of lipids and lipid diseases in closed populations.   | HL14174                          | NIH    | S                     | 620,030                |                  | 0.0                        | 0.0               | 0.057                                |
| Reaven, Gerald       | Metabolism                 | PASSAY: Statistical studies of material obtained from inpatients in study of metabolic abnormalities.  | HL14174                          | NIH    | S                     | 620,030                |                  | 30.2                       | 9,754             | 0.041                                |
| Reaven, Gerald       | Metabolism                 | SCOR: Study of relationship between attitudes and habits in atherosclerosis.   | HL14174                          | NIH    | S                     | 620,030                |                  | 73.4                       | 48,479            | 6.024                                |
| Reaven, Gerald       | Metabolism                 | SLRES: Elucidation of relationship of health habits to atherosclerosis.  | HL14174                          | NIH    | S                     | 620,030                |                  | 83.0                       | 42,878            | 1.342                                |
| Reaven, Gerald       | Metabolism                 | WASSAY: Assays of cholesterol and triglyceride to determine distribution of lipid diseases in free living populations.   | HL14174                          | NIH    | S                     | 620,030                |                  | 31.3                       | 10,374            | 0.034                                |
| Reaven, Gerald       | Metabolism                 | INPAT: Opened in error; never used.  | HL14174                          | NIH    | S                     | 620,030                |                  | 0.0                        | 0.0               | 0.002                                |
| Reaven, Gerald       | Metabolism                 | DISPLAY: Graphics display program and modeling programs for the research detailed above.   | HL08506                          | NIH    | S                     | 71,305                 |                  | 3.2                        | 2,456             | 3.859                                |

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|------------------------|----------------------------|--|---|----------------------|------------------------|-----------------------|------------------|--------------------------|---------------------------------|---------------------------------------|
|                        |                            |  |   |                      |                        |                       | BATCH<br>Minutes | Terminal Access<br>Hours | Time Sharing<br>Pageminutes (K) | Block Storage (K)<br>(Block=2K Bytes) |
| Category 2 (cont'd.)   | Non-Realtime               | Sponsored Research (CHARGEABLE)  |   |                      |                        |                       | @ \$50/hr        |                          | @ \$.017 per<br>pageminute      | @ \$.10 per block                     |
| Reynolds, Walter       | Genetics                   | TEXTS: Text management support for engineering efforts in instrumentation; commercial technical data and information retrieval programs. | NR004   | NASA                 | 180,000                | S                     |                  | 0.0                      | 0.0                             | 6.996                                 |
| Robertson, William     | Pediatrics                 | UCAG: Urinary analysis of glycosaminoglycans; immunoglobulin concentrations in sera; binding of ligands to macromolecules.               | ---   | Hart-<br>fd.<br>Fdn. | ---                    | S                     |                  | 11.0                     | 4.8%                            | 0.207                                 |
| Rosenberg, Leon        | Medical<br>Microbiology    | ALEXINE: Studies of serum complement in mice.  | AI09341   | NIH                  | 49,202                 | S                     |                  | 17.8                     | 6.6%                            | 0.215                                 |
| Rosenberg, Saul        | Oncology                   | MEMPHOL: Development of time-oriented patient record system for patients with malignant diseases.  | ---   | Am.<br>Cancer        | ---                    | C                     |                  | 346.0                    | 243.640                         | 9.009                                 |
| Rosenberg, Saul        | Oncology                   | TOD: Same as above, converted to TOD, ACME's Time-Oriented Database system.  | ---   | Am.<br>Cancer        | ---                    | C                     |                  | 52.1                     | 47.867                          | 2.932                                 |
| Rosenberg, Saul        | Oncology                   | STATIST: Statistical analysis of survival rates of cancer patients.  | ---   | Am.<br>Cancer        | ---                    | S                     |                  | 80.9                     | 28.568                          | 2.419                                 |
| Rosenquist, Grace      | Gastroenter-<br>ology      | GASTRIN: Calculation of serum gastrin concentrations of normals and patients with G.I. tract diseases.                                   | AM06971   | NIH                  | 97,889                 | S                     |                  | 65.6                     | 26.788                          | 0.127                                 |
| Rosenthal, William     | Otolaryngol-<br>ogy        | RESEARCH: Auditory processing in language deviant children; longitudinal study and follow-up of language deviant children.               | NS07514   | NIH                  | 157,136                | S                     |                  | 2.2                      | 0.481                           | 0.561                                 |
| Scarphearder, Jonathan | Biosciences                | POPEOL: Computer simulation of models of population growth.  | ---   | Dept.<br>Funds       | ---                    | S                     |                  | 0.0                      | 0.0                             | 0.004                                 |
| Russell, Alan          | Biochemistry               | AFFINITY: Enzyme assay calculation.  | GM07581   | NIH                  | 313,398                | S                     |                  | 0.0                      | 0.0                             | 0.102                                 |
| Russ, Frederica        | Otolaryngol-<br>ogy        | CHIRPAM: Attempt to validate an automated approach to hearing screening in the newborn.  | NS07974   | NIH                  | 42,521                 | C                     |                  | 1.5                      | 0.766                           | 0.019                                 |
| Schubert, Earl         | Otolaryngol-<br>ogy        | SOMICS: Analysis of signal waveforms by Fourier, correlational and similar techniques.   | ---   | Dept.<br>Funds       | ---                    | S                     |                  | 21.1                     | 8.790                           | 0.647                                 |
| Schwartz, Donald       | Anesthesia                 | RESPOT: Calculation of cardiac indices; correlation with blood ionized calcium levels.   | GM12577   | NIH                  | 503,159                | S                     |                  | 129.5                    | 70.411                          | 1.089                                 |
| Simson, Jack           | Physics                    | SUCIE: Design work for a superconducting magnetic beam transport channel for use in pion cancer therapy.                                 | GI35007   | NSF                  | 817,700                | S                     |                  | 9.6                      | 6.285                           | 2.930                                 |
| Sklar, Alan            | Psychiatry                 | CADAPULT: Relationship of parental separations during the first 18 years of life and personality characteristics of children.            | ---   | Dept.<br>Funds       | ---                    | S                     |                  | 31.8                     | 8.985                           | 0.940                                 |

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|--|-----------------------------------|--|---|------------------------|------------------------|-----------------------|------------------------------|--------------------------|---------------------------------------|
|  |                                   |  |   |                        |                        |                       | BATCH<br>Minutes             | Terminal Access<br>Hours | Block Storage (K)<br>(Block=2K Bytes) |
| Category 2 (cont'd.)                         | Non-Realtime                      | Sponsored Research (CHARGEABLE)  |   |                        |                        |                       | \$ \$50/hr                   |                          | \$ \$0.17 per<br>page/minute          |
| Smith, James                                 | Medical<br>Microbiology           | CARVIR/CARVIR: Development of<br>automated system for classification<br>of human chromosomes.  | NCI-E-69-<br>2053   | NIH                    | 172,369                | S                     | 44.1                         | 53,149                   | 4.161                                 |
| Smith, Kendrick                              | Radiobiology                      | CHBR: Data analysis of sedimentation<br>patterns of DNA following X-irradia-<br>tion.  | CAL0372   | NIH                    | 529,889                | S                     | 211.1                        | 67,886                   | 0.148                                 |
| Solomon, George                              | Psychiatry                        | STRIPS: Relating various forms of<br>stress and environmental manipulation<br>to immunity.   | MHI5976   | HSMHA                  | 54,306                 | S                     | 6.4                          | 1,649                    | 0.720                                 |
| Starik, George                               | Biochemistry                      | CHACS: Enzyme experiment data<br>analysis and processing of chromato-<br>grams generated by an amino acid<br>analyzer.   | GMD1788   | NIH                    | 74,137                 | S                     | 23.5                         | 5,322                    | 1.139                                 |
| Stewart, John                                | Med. School<br>Student<br>Affairs | MR: Computerization of student<br>records of medical school.   | ---   | Dept.<br>Funds         | ---                    | S                     | 10.4                         | 4,801                    | 0.022                                 |
| Stocker, Bruce                               | Medical<br>Microbiology           | STM: Genetics and physiology of<br>salmonella typhimurium.   | AI00082   | NIH                    | 152,418                | S                     | 31.1                         | 11,253                   | 8.957                                 |
| Strickland, Robert                           | Gastroenter-<br>ology             | GASTRIC: Analysis of gastric secre-<br>tory function tests.  | AM05418   | NIH                    | 66,785                 | S                     | 0.0                          | 0.0                      | 0.250                                 |
| Stuedeman, Ion                               | Genetics                          | ADMIN: Capital equipment inventory.  | NIRO04  | NASA                   | 180,000                | S                     | 23.5                         | 8,222                    | 2.178                                 |
| Vosti, Kenneth                               | Infectious<br>Diseases            | VOSTI: Cross-tabulation of variables<br>associated with bacterial infections.  | AI03638   | NIH                    | 38,112                 | S                     | 3.8                          | 3,322                    | 2.778                                 |
| Watson, Stanley                              | UCLA                              | WUDA: Investigation of biological<br>bases of pain relief.   | ---   | UCLA<br>Funds          | ---                    | S                     | 10.0                         | 6,283                    | 0.010                                 |
| Weissman, Irving                             | Pathology                         | TYMIS: Statistical analysis and<br>data handling for pathology research.   | AI09072   | NIH                    | 71,007                 | S                     | 35.3                         | 7,771                    | 0.516                                 |
| Whitson, Robert                              | Regional<br>Medical<br>Program    | MPS EVAL: Evaluation of multiphasic<br>screening project in San Joaquin<br>County to discover its effect on<br>disease treatment patterns.   | ---   | HSMHA                  | 50,517                 | S                     | 2.2                          | 0,686                    | 2.470                                 |
| Wolcott, Leslie                              | Psychiatry                        | MIMPIN: Testing statistical corre-<br>lations between drug and non-drug<br>data, e.g., amphetamines, placebos,<br>THC, etc.  | AA00498   | HSMHA                  | 718,697                | S                     | 0.2                          | 0,031                    | 0.173                                 |
|  |                                   |  |   |                        |                        |                       | 6976                         | 91115.4                  | 4844,785                              |
|  |                                   |  |   |                        |                        |                       | SUB-TOTAL                    |                          |                                       |
| Category 3 Non-Stanford Medical (CHARGEABLE) |                                   |  |   |                        |                        |                       |                              |                          |                                       |
| Belt, Donald                                 | Otolaryngol-<br>ogy               | SEC: Process and evaluate hearing<br>and vision screening data.  | ---   | Perso-<br>nal<br>Funds | ---                    | S                     | 0.0                          | 0.0                      | 0.022                                 |
| Belzer, Folkert                              | Univ. of<br>Calif at SF           | KIDNEY: Selection of recipients for<br>renal hemotransplantation; measure-<br>ment and calculation of hemodynamic<br>changes in transplant patients for<br>detection of incipient rejection. | ---   | Univ.<br>Calif.        | ---                    | S                     | 394.8                        | 401,350                  | 13.137                                |
|  |                                   |  |   |                        |                        |                       | @ \$0.025 per<br>page/minute |                          |                                       |
|  |                                   |  |   |                        |                        |                       | \$ \$0.10 per block          |                          |                                       |

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| INVESTIGATOR                       | DEPARTMENT/<br>INSTITUTION      | PROJECT TITLE   | DIRECT GRANT OR CONTRACT SUPPORT |                      | RRR<br>Cate-<br>gory* | AMOUNT OF USAGE        |                  |                          | Block Storage (K)<br>(Block=2K Bytes) |
|------------------------------------|---------------------------------|---|----------------------------------|----------------------|-----------------------|------------------------|------------------|--------------------------|---------------------------------------|
|                                    |                                 |   | Identifying<br>Number            | Agency               |                       | Current<br>Annual Amt. | BATCH<br>Minutes | Terminal Access<br>Hours |                                       |
| Category 3 (cont'd.)               | Non-Stanford                    | Medical (CHARGEABLE)  |                                  |                      |                       |                        |                  |                          |                                       |
| Chang, Herbert                     | Prentice Electronics            | P3000 SC: Preparation for possible ACME use of Prentice P3000 communications controller.  | ---                              | Prentice Electronics | ---                   | 2.1                    | 0.508            | @ \$.025 per page/minute | @ \$.10 per block                     |
| Daughters, George                  | Palo Alto Medical Research Fdn. | PLAYTIME: Instruction in computer use for PAMR staff.   | ---                              | PAMR                 | T                     | 5.5                    | 1.055            |                          | 0.182                                 |
| Daughters, George                  | Palo Alto Medical Research Fdn. | CINES: Myocardial dynamics.   | ---                              | PAMR                 | C                     | 103.8                  | 23.520           |                          | 0.433                                 |
| Daughters, George                  | Palo Alto Medical Research Fdn. | LABCHECK: Routine terminal use for PAMR Clinical Laboratory.  | ---                              | PAMR                 | C                     | 22.9                   | 4.770            |                          | 0.094                                 |
| Efron, Brad                        | Statistics                      | EFRON: Biostatistical analysis of drug data.  | ---                              | Personal Funds       | S                     | 0.1                    | 0.008            |                          | 0.060                                 |
| Kountz, Samuel                     | St. Univ. of NY                 | TKIDNEY: Donor-recipient pairing for national kidney transplant sharing program.  | ---                              | St. Univ. NY         | S                     | 1.6                    | 1.216            |                          | 0.277                                 |
| Wesad, Carol                       | Palo Alto Medical Clinic        | CARPPA: Correlation of cardiac health and exercise, medication, smoking habits, etc.  | ---                              | PA Med. Clinic       | S                     | 0.7                    | 0.143            |                          | 0.015                                 |
| Stewart, Louis                     | Jung Institute                  | DREAMS: Concordance of psychiatric dream data.  | ---                              | Jung Inst.           | S                     | 0.0                    | 0.0              |                          | 0.000                                 |
| Tickner, Ernest                    | Palo Alto Medical Research Fdn. | VISCOUS: Viscous behavior of blood.   | PM4620                           | PAMR                 | S                     | 26.4                   | 17.052           |                          | 0.472                                 |
| Tickner, Ernest                    | Palo Alto Medical Research Fdn. | MURMURS: Development of computer-averaged transient routine to detect heart murmurs.  | ---                              | PAMR                 | S                     | 37.6                   | 46.118           |                          | 0.773                                 |
|                                    |                                 |   |                                  |                      |                       | SUBTOTAL               | 595.5            | 495.740                  | 15.032                                |
| Category 4 Medical Students (FREE) |                                 |   |                                  |                      |                       |                        |                  | @ \$.02 per page/minute  | @ \$.10 per block                     |
| Athearn, Fred                      | Student                         | HEART: Conversion of the digitalized results of ultrasonic studies of the heart into form allowing a model of heart surfaces to be constructed and analyzed.                    |                                  |                      | T                     | 0.6                    | 0.130            |                          | 0.224                                 |
| Bosley, Mac                        | Student                         | PHATCITY: Learning computing and PL/ACME.   |                                  |                      | T                     | 2.6                    | 0.540            |                          | 0.235                                 |
| Brast, Neil                        | Student                         | RODENTS: Statistical programs for student's research.   |                                  |                      | T                     | 2.5                    | 0.235            |                          | 1.131                                 |
| Brunda, Michael                    | Student                         | MEDIMICRO: Evaluation of data from gamma counter on per cent cytotoxicity in cell suspensions exposed to a variety of developed antisera against thymus and brain determinants. |                                  |                      | T                     | 13.4                   | 4.681            |                          | 0.273                                 |

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| INVESTIGATOR         | DEPARTMENT/<br>INSTITUTION | PROJECT TITLE   | DIRECT GRANT OR CONTRACT SUPPORT |                       | BRR<br>Cate-<br>gory* | AMOUNT OF USAGE  |                          |                             | Block Storage(K)<br>(Block=2K Bytes) |
|----------------------|----------------------------|---|----------------------------------|-----------------------|-----------------------|------------------|--------------------------|-----------------------------|--------------------------------------|
|                      |                            |   | Identifying<br>Number            | Agency<br>Annual Amt. |                       | BATCH<br>Minutes | Terminal Access<br>Hours | Page/minutes (K)            |                                      |
| Category 4 (cont'd.) | Medical Students (FREE)    |   |                                  |                       |                       |                  |                          | 3 \$ .02 per<br>page/minute | 3 \$ .10 per block                   |
| Bull, Kenneth        | Psychiatry                 | K BULL: Effects of injections of epinephrine v. nor-epinephrine on agonistic (aggressive, withdrawal, fear) and autistic behaviors in Rhesus monkeys. |                                  |                       | T                     |                  | 5.4                      | 1.412                       | 0.320                                |
| Calvert, James       | Student                    | TEXT: Solving the economic problem of medical research funds allocation; one criterion: change in mortality rate.                                     |                                  |                       | T                     |                  | 0.0                      | 0.0                         | 0.840                                |
| Cavalli, Luca        | Genetics                   | HUMGEN: Classwork for course in human genetics.   |                                  |                       | T                     |                  | 21.3                     | 12.163                      | 0.568                                |
| Cavalli, Luca        | Genetics                   | BIOMETRY: Elementary biostatistics course for undergraduates, aimed especially at those who have difficulties with math.                              |                                  |                       | T                     |                  | 96.6                     | 69.228                      | 0.511                                |
| Chester, Thomas      | Student                    | PLAQUE: Anti-tumor immune responsive effects of interferon and interferon inducers.   |                                  |                       | T                     |                  | 22.7                     | 11.104                      | 1.927                                |
| Chiarp, Mona         | Student                    | MEYESTPA: Calculation of enzyme activities and carbohydrate content of cell fractions.  |                                  |                       | T                     |                  | 29.7                     | 8.129                       | 0.505                                |
| Corby, James         | Student                    | HURRY: Relationship between attention and enhancement of average evoked response (AER) magnitude.   |                                  |                       | T                     |                  | 0.9                      | 0.177                       | 0.402                                |
| Lecker, Don          | Student                    | UCG: Ultrasound studies of human heart.   |                                  |                       | T                     |                  | 71.3                     | 29.609                      | 3.432                                |
| Linsdale, Joel       | Student                    | GETPEACE: Characterization of goals in psychiatric wards and ward pressures on patients and staff to conform to the goals.                            |                                  |                       | T                     |                  | 1.2                      | 1.138                       | 2.824                                |
| Libow, Ronald        | Student                    | TURTEL: Enzyme changes in the skeletal muscles of chronically exercised rats.   |                                  |                       | T                     |                  | 7.1                      | 1.484                       | 0.114                                |
| Felder, Ralph        | Student                    | NEUROVIS: Mathematical modelling of visual system of the cat.   |                                  |                       | T                     |                  | 3.0                      | 0.422                       | 0.091                                |
| Feldman, Gary        | Student                    | ASTRA: Monitoring of airway resistance values during sessions with asthmatic patients and normal subjects.  |                                  |                       | T                     |                  | 0.0                      | 0.0                         | 0.010                                |
| Fink, Glenn          | Student                    | RHINO: Study of rhinoviruses.   |                                  |                       | T                     |                  | 1.5                      | 0.308                       | 0.016                                |
| Jarel, John          | Student                    | DOGLAB: Indicator dilution techniques for measuring pulmonary blood flow and lung transfer function.  |                                  |                       | T                     |                  | 0.0                      | 0.0                         | 0.105                                |
| Gartrell, Nanette    | Student                    | GAY: Analysis of responses to questionnaire on psychiatrists' attitudes toward GAY women.   |                                  |                       | T                     |                  | 16.3                     | 3.973                       | 0.226                                |

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| INVESTIGATOR         | DEPARTMENT/<br>INSTITUTION | PROJECT TITLE  | DIRECT GRANT OR CONTRACT SUPPORT |                       | BRR<br>Category | AMOUNT OF USAGE          |                            |                                       |
|----------------------|----------------------------|--|----------------------------------|-----------------------|-----------------|--------------------------|----------------------------|---------------------------------------|
|                      |                            |  | Identifying<br>Number            | Agency<br>Annual Amt. |                 | Terminal Access<br>Hours | Page-minutes (K)           | Block Storage (K)<br>(Block=2K Bytes) |
| Category 4 (cont'd.) | Medical Students (FREE)    |  |                                  |                       |                 |                          | @ \$.02 per<br>page-minute | @ \$.10 per block                     |
| Graber, Mark         | Student                    | HEXION: Interaction of Lac Repressor protein with DNA and inducing sugars using NMR spectroscopy.  |                                  |                       | T               | 19.9                     | 6.164                      | 0.085                                 |
| Huest, Richard       | Student                    | INDIANPR: Pre-natal risk vs. outcome studies of Indian and white populations.  |                                  |                       | T               | 51.1                     | 13.391                     | 1.157                                 |
| Jacobs, Beverly      | Student                    | COMPUTE: Thesis research project on mechanism of insulin action.   |                                  |                       | T               | 0.1                      | 0.047                      | 0.232                                 |
| Jay, Wesley          | Student                    | NOMAN: Information processing, storage, retrieval and display for students' research on enumerating a minor cell population by fluorescent techniques.                         |                                  |                       | T               | 56.4                     | 17.412                     | 3.699                                 |
| Klyde, Barry         | Student                    | Estrogen-induced alterations in specific species of chicken liver tRNA.  |                                  |                       | T               | 95.5                     | 53.878                     | 1.152                                 |
| Leith, Bonnie Sue    | Student                    | GROCURV: Analysis of growth curves of tissue cultures, comparing them to a logistic curve and analyzing variance.  |                                  |                       | T               | 24.3                     | 6.453                      | 0.472                                 |
| Lenssen, Barbara     | Student                    | INFANTS: Analysis of data for doctoral dissertation on infants' fear of strangers.   |                                  |                       | T               | 1.3                      | 0.446                      | 0.232                                 |
| Levine, Rodney       | Student                    | GPS: Clarification of mechanisms of pyrimidine synthesis in mammals and the relationship of that synthesis to the control of cellular proliferation.                           |                                  |                       | T               | 140.2                    | 51.788                     | 4.417                                 |
| Lipp, Martin         | Student                    | MEDSPOT: Survey of marijuana use among medical personnel.  |                                  |                       | T               | 0.0                      | 0.0                        | 4.899                                 |
| Mascver, Gerald      | Student                    | MYOPLAS: Amino acid analysis of media used for growth of mycoplasma and tissue culture cells.  |                                  |                       | T               | 0.2                      | 0.054                      | 0.192                                 |
| Miller, Craig        | Student                    | CAB: Development of risk/benefit guidelines for saphenous vein - coronary artery bypass surgery.   |                                  |                       | T               | 9.1                      | 10.266                     | 0.732                                 |
| Miller, Stephen      | Student                    | LEARN: Analysis of data from an AMGEF scintillation camera in connection with kidney blood flow studies; computer diagnosis of liver and cardiac disease.                      |                                  |                       | T               | 0.0                      | 0.0                        | 0.216                                 |
| M. schak, Ronald     | Student                    | HISTOCON: Evaluation of data from gamma counter on per cent cytotoxicity in cell suspensions exposed to a variety of developed antisera against thymus and brain determinants. |                                  |                       | T               | 0.0                      | 0.0                        | 0.072                                 |
| Nobley, William      | Student                    | PHOONED: Statistical analysis for thesis project on proteins; storage of research notes and data, edited class notes and references.   |                                  |                       | T               | 0.0                      | 0.0                        | 0.048                                 |

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| INVESTIGATOR         | DEPARTMENT/<br>INSTITUTION | PROJECT TITLE   | DIRECT GRANT OR CONTRACT SUPPORT<br>Identifying<br>Number | Agency | Current<br>Annual Amt. | BRR<br>Cate-<br>gory** | AMOUNT OF USAGE          |                                 |                                      |
|----------------------|----------------------------|---|---|--------|------------------------|------------------------|--------------------------|---------------------------------|--------------------------------------|
|                      |                            |   |   |        |                        |                        | Terminal Access<br>Hours | Time Sharing<br>Pageminutes (K) | Block Storage(K)<br>(Block=2K Bytes) |
| Category 4 (cont'd.) | Medical Students (FREE)    |   |   |        |                        |                        |                          | @ \$.02 per<br>pageminute       | @ \$.10 per block                    |
| Myers, Woodrow       | Student                    | MGTP: Instruction in statistics and introduction to computers for advanced minority high school students in the Youth Opportunities Program (YOP).                                      |   |        |                        | T                      | 48.0                     | 13.533                          | 0.136                                |
| Neff, Nicola         | Student                    | POTYRIBO: Extraction of polyribosomes and ribosomes from human fibroblast cells in culture to determine relative proportions and quantity throughout cell life culture.                 |   |        |                        | T                      | 89.5                     | 44.786                          | 2.001                                |
| Nestor, Larry        | Student                    | DIFFDK: Establishment of computer program to aid in differential diagnosis.   |   |        |                        | T                      | 0.0                      | 0.0                             | 0.072                                |
| Nola, Gaeton         | Student                    | DIGMI: Effects of several drugs on hemodynamic parameters in dogs.  |   |        |                        | T                      | 35.2                     | 8.851                           | 1.059                                |
| Nuxer, Marc          | Student                    | NEURON: Modelling of interactions of groups of neurons.   |   |        |                        | T                      | 57.6                     | 30.555                          | 1.163                                |
| Otell, Robert        | Student                    | CIS: Learning use of ACME system.   |   |        |                        | T                      | 6.6                      | 2.045                           | 0.135                                |
| Peterson, Daniel     | Student                    | MORELIN: Formulation of comprehensive model for insulin metabolism in the human body.   |   |        |                        | T                      | 0.0                      | 0.0                             | 0.038                                |
| Pope, Stephen        | Student                    | AVELGIL: Cardiovascular function parameters of various pharmacologic agents.  |   |        |                        | T                      | 0.0                      | 0.0                             | 0.008                                |
| Paybin, Daniel       | Student                    | ASSAYS: Calculation of enzyme assays and enzyme kinetics.   |   |        |                        | T                      | 2.2                      | 0.624                           | 0.425                                |
| Rosenfeld, Ron       | Student                    | CCUPSYCA: Study of psychophysiological adaptation of male patients to the Coronary Care Unit.   |   |        |                        | T                      | 0.0                      | 0.0                             | 0.002                                |
| Rosenthal, William   | Student                    | RESEARCH: Auditory processing in language deviant children; longitudinal study and follow-up of language deviant children.  |   |        |                        | T                      | 0.0                      | 0.0                             | 0.139                                |
| Sachs, David         | Student                    | POPCIT: Statistical analysis of questionnaires completed by newspaper reporters and editors on their attitudes and orientations toward environmental health issues.                     |   |        |                        | T                      | 2.7                      | 3.748                           | 0.716                                |
| Sack, Robert         | Student                    | MASOCH: Item analysis of questionnaire to determine which questions best discriminate between normals and psychiatric patients; also cluster analysis for internally correlative items. |   |        |                        | T                      | 22.1                     | 6.052                           | 0.560                                |
| Schwartz, Barry      | Student                    | CELLOCON: Analysis of Coulter Counter data for study of aging process at cellular level.  |   |        |                        | T                      | 1.8                      | 0.447                           | 0.060                                |



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| INVESTIGATOR                   | DEPARTMENT/<br>INSTITUTION | PROJECT TITLE   | DIRECT GRANT OR CONTRACT SUPPORT |                       | BRR<br>Cate-<br>gory* | AMOUNT OF USAGE          |                            |                                       |
|--------------------------------|----------------------------|---|----------------------------------|-----------------------|-----------------------|--------------------------|----------------------------|---------------------------------------|
|                                |                            |   | Identifying<br>Number            | Agency<br>Annual Amt. |                       | Terminal Access<br>Hours | Page/minutes (K)           | Block Storage (K)<br>(Block=2K Bytes) |
| Category 4 (cont'd.)           |                            |   |                                  |                       |                       |                          |                            |                                       |
|                                | Medical Students (FREE)    |   |                                  |                       |                       |                          | @ \$.02 per<br>page/minute | @ \$.10 per block                     |
| Siever, Larry                  | Student                    | GRADIENT: Study of gradients of<br>biogenic amines in the spinal cord<br>cerebrospinal fluid.   |                                  |                       | T                     | 0.0                      | 0.0                        | 0.006                                 |
| Sinclair, Allen                | Student                    | HEARTCEL: Measurement of intervals<br>between beats of individual heart<br>cells and administration of drugs<br>to cells to change environmental<br>conditions.       |                                  |                       | T                     | 0.0                      | 0.0                        | 0.034                                 |
| Spinelli, Nico                 | Psychiatry                 | COMPBIOL: Class account for "Compu-<br>ters in Biology and Medicine."   |                                  |                       | T                     | 32.9                     | 26.765                     | 0.562                                 |
| Sproul, Myrna                  | Student                    | FETAL: Data analysis for thesis<br>project on relationship of maternal<br>corticosteroids to the development<br>of the fetal hypothalamic-pituitary-<br>adrenal axis. |                                  |                       | T                     | 25.2                     | 21.616                     | 0.145                                 |
| Unknown Users                  | Mostly<br>Students         | SCRATCH: Minor use of the system<br>without data storage.   |                                  |                       | T                     | 440.5                    | 150.554                    | 0.161                                 |
|                                |                            |   |                                  |                       |                       | SUB-TOTAL                | 614.308                    | 38.372                                |
| Category 5 Realtime (FREE)     |                            |   |                                  |                       |                       |                          |                            |                                       |
|                                | Core Research              |   |                                  |                       |                       |                          | @ \$.02 per<br>page/minute | @ \$.10 per block                     |
| Bach, Virginia (J. Lederberg)  | Genetics                   | GAME: Computer control of Finnigan<br>1015 quadrupole mass spectrometer.  |                                  |                       | Cor                   | 109.2                    | 143.923                    | 13.170                                |
| Bersch, Will                   | Neurology                  | ACME: Development of time series<br>analysis service programs for ACME<br>users.  |                                  |                       | Cor                   | 592.8                    | 394.915                    | 15.729                                |
| Lederberg, Joshua              | Genetics                   | DEMURAL: Mass spectra analysis and<br>interpretation.   |                                  |                       | Cor                   | 3160.5                   | 4146.608                   | 190.332                               |
|                                |                            |   |                                  |                       |                       | SUB-TOTAL                | 4685.446                   | 219.211                               |
| Category 6 Non-Realtime (FREE) |                            |   |                                  |                       |                       |                          |                            |                                       |
|                                | Core Research              |   |                                  |                       |                       |                          | @ \$.02 per<br>page/minute | @ \$.10 per block                     |
| Cann, Howard                   | Pediatrics                 | GUAT: Testing of new utility program<br>for dumping files to tapes readable<br>at other computer facilities.  |                                  |                       | Cor                   | 0.0                      | 0.0                        | 0.540                                 |
| Chang, Herbert                 | Prentice<br>Electronics    | PYXOO SC: Preparation for possible<br>ACME use of PYXOO communications<br>controller.   |                                  |                       | Cor                   | 10.4                     | 1.579                      | 0.053                                 |
| Cohen, Stan                    | Clinical<br>Pharmacology   | DRUGALERT: Computerized system to<br>warn of interactions of drugs<br>administered to patients.   |                                  |                       | Cor                   | 364.5                    | 239.170                    | 12.084                                |
| Lederberg, Joshua              | Genetics                   | PILOT1: Demonstration programs.   |                                  |                       | Cor                   | 462.5                    | 204.063                    | 14.328                                |
| Lederberg, Joshua              | Genetics                   | PILOT2: System testing and monitor-<br>ing.   |                                  |                       | Cor                   | 281.2                    | 117.959                    | 9.217                                 |
| Rosenberg, Saul                | Oncology                   | MEDONCOL/TOD: Test case for use of<br>ACME's Time-Oriented Database (TOD)<br>system.  |                                  |                       | Cor                   | 257.0                    | 240.886                    | 7.773                                 |
|                                |                            |   |                                  |                       |                       | SUB-TOTAL                | 803.657                    | 44.895                                |

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|-------------------------|----------------------------|---|----------------------------------|-----------------------|-----------------------|--------------------------|----------------------------|--------------------------------------|
|                         |                            |   | Identifying<br>Number            | Agency<br>Annual Amt. |                       | Terminal Access<br>Hours | TIME SHARING               |                                      |
|                         |                            |   |                                  |                       |                       |                          | Page-minutes (K)           | Block Storage(K)<br>(Block=2K Bytes) |
| Category 7 Staff (FREE) |                            |   |                                  |                       |                       |                          | @ \$.02 per<br>page-minute | @ \$.10 per block                    |
| Bassett, Robert         | ACME                       | ACMECONS: Application program deve-<br>lopment; user consultation.      |                                  |                       | Cor                   | 723.8                    | 461.129                    | 7.787                                |
| Baxter, Erica           | ACME                       | NOTES: Maintenance of ACME Note<br>index and list of user publications. |                                  |                       | Cor                   | 71.6                     | 25.902                     | 6.568                                |
| Baxter, Erica           | ACME                       | TRAINING: ACME user accounting<br>records.                              |                                  |                       | Cor                   | 20.6                     | 6.983                      | 0.781                                |
| Becker, Sheldon         | Computation<br>Center      | ACME: System development and<br>testing.                                |                                  |                       | Cor                   | 0.0                      | 0.0                        | 0.008                                |
| Berman, Joseph          | ACME                       | PACME: System development and<br>testing.                               |                                  |                       | Cor                   | 2.1                      | 0.965                      | 6.084                                |
| Berns, Robert           | ACME                       | DEMURAL: System development and<br>testing.                             |                                  |                       | Cor                   | 9.8                      | 3.953                      | 6.513                                |
| Breverran, Charles      | ACME                       | APPLICAT: System development and<br>testing.                            |                                  |                       | Cor                   | 71.5                     | 16.742                     | 1.098                                |
| Breverman, Charles      | ACME                       | RADIO: Development of radioimmuno-<br>assay programs.                   |                                  |                       | Cor                   | 72.4                     | 13.479                     | 2.090                                |
| Briggs, Russell         | ACME                       | ACME: System development and<br>testing.                                |                                  |                       | Cor                   | 0.8                      | 0.176                      | 6.142                                |
| Briggs, Russell         | ACME                       | REDDP-11: Disc monitor for PDP-11.                                      |                                  |                       | Cor                   | 3.2                      | 0.478                      | 3.774                                |
| Crouse, Linda           | ACME                       | CATH LAB: Development of real-time<br>medical applications.             |                                  |                       | Cor                   | 25.1                     | 7.109                      | 4.689                                |
| Feigenbaum, Edward      | Computation<br>Center      | DEMOS: System demonstrations.   |                                  |                       | Cor                   | 0.0                      | 0.0                        | 0.132                                |
| Feigenbaum, Edward      | Computation<br>Center      | TOEYTEST: System demonstrations.  |                                  |                       | Cor                   | 0.0                      | 0.0                        | 0.024                                |
| Freret, Payne           | ACME                       | LOMA: Development of graphics<br>software.                              |                                  |                       | Cor                   | 1.5                      | 0.285                      | 0.264                                |
| Frey, Regina            | ACME                       | ACME: File system testing; consult-<br>ing programs.                    |                                  |                       | Cor                   | 180.5                    | 40.734                     | 13.073                               |
| George, Denise          | Computation<br>Center      | OS: System development and testing.                                     |                                  |                       | Cor                   | 0.0                      | 0.0                        | 0.002                                |
| German, Frank           | ACME                       | TON: Development of Time-Oriented<br>Database System (TON).             |                                  |                       | Cor                   | 283.6                    | 204.121                    | 7.214                                |
| German, Frank           | ACME                       | USERSERV: User consultation and<br>applications program development.    |                                  |                       | Cor                   | 122.9                    | 57.227                     | 1.331                                |
| Glusti, Rick            | ACME                       | PI: System development and testing.                                     |                                  |                       | Cor                   | 220.0                    | 103.771                    | 4.315                                |
| Goheen, Mark            | ACME                       | ACBUIL: System development and<br>testing.                              |                                  |                       | Cor                   | 236.6                    | 98.754                     | 1.364                                |

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|----------------------|----------------------------|---|----------------------------------|-----------------------|-----------------------|--------------------------|---------------------------|--------------------------------------|
|                      |                            |   | Identifying<br>Number            | Agency<br>Annual Amt. |                       | Terminal Access<br>Hours | Pageminutes (K)           | Block Storage(K)<br>(Block=2K Bytes) |
| Category 7 (cont'd.) | Staff (FREE)               |   |                                  |                       |                       |                          | @ \$.02 per<br>pageminute | @ \$.10 per block                    |
| Granieri, Charles    | ACME                       | ACME: System development and testing.   |                                  |                       | Cor                   | 127.3                    | 57.107                    | 2.101                                |
| Harrison, Jeff       | ACME                       | SUMMER: System development and testing.                                       |                                  |                       | Cor                   | 74.0                     | 31.896                    | 0.661                                |
| Heathman, Mike       | ACME                       | MINI: System development and testing.   |                                  |                       | Cor                   | 81.3                     | 77.241                    | 3.794                                |
| Hu, Jean             | ACME                       | ACME: System development and testing.   |                                  |                       | Cor                   | 0.0                      | 0.0                       | 8.172                                |
| Hundley, Lee         | ACME                       | ACME: System development and testing; emphasis on real-time data acquisition. |                                  |                       | Cor                   | 125.6                    | 54.334                    | 5.057                                |
| Jantgaard, Ron       | ACME                       | GOAL: Director's office projects.   |                                  |                       | Cor                   | 115.0                    | 30.988                    | 1.950                                |
| Jantgaard, Ron       | ACME                       | MYJOB.TASK: Task management.  |                                  |                       | Cor                   | 0.0                      | 0.008                     | 0.372                                |
| Lederberg, Joshua    | Genetics                   | TESTS: Systems tests.   |                                  |                       | Cor                   | 102.6                    | 36.001                    | 3.110                                |
| Leong, Leon          | ACME                       | WORK: Development of applications program.                                    |                                  |                       | Cor                   | 44.5                     | 27.968                    | 1.648                                |
| Lev, Ying            | ACME                       | SUMMER: System development and testing.                                       |                                  |                       | Cor                   | 109.5                    | 34.139                    | 2.068                                |
| Martin, Charles      | Computation<br>Center      | ACME: System development and testing.   |                                  |                       | Cor                   | 0.0                      | 0.0                       | 0.002                                |
| Matheson, Russ       | ACME                       | PI: System development and testing.   |                                  |                       | Cor                   | 2.7                      | 3.336                     | 5.182                                |
| Miller, Stu          | ACME                       | ACME: System development and testing.   |                                  |                       | Cor                   | 125.2                    | 56.239                    | 1.307                                |
| Neimat, Marie-Anne   | ACME                       | NEW: System development and testing.  |                                  |                       | Cor                   | 22.2                     | 6.298                     | 0.226                                |
| Nozaki, Tom          | ACME                       | ENGINEER: Engineering applications.   |                                  |                       | Cor                   | 35.4                     | 11.049                    | 2.795                                |
| Powell, Marlin       | ACME                       | WAR: Applications program development.  |                                  |                       | Cor                   | 150.6                    | 64.098                    | 1.592                                |
| Sanders, William     | ACME                       | ASDFG: Hardware and software development.                                     |                                  |                       | Cor                   | 0.2                      | 0.050                     | 1.342                                |
| Schroeder, John      | ACME                       | ACME: System development and testing.   |                                  |                       | Cor                   | 1.0                      | 0.150                     | 0.019                                |
| Stainton, Robert     | ACME                       | SCC: System development and testing.  |                                  |                       | Cor                   | 79.4                     | 16.785                    | 1.657                                |
| Stibbin, Bert        | Computation<br>Center      | ENGINEER: Engineering applications.   |                                  |                       | Cor                   | 0.0                      | 0.0                       | 0.004                                |
| Tribolet, Chuck      | ACME                       | CAT: Development of computer-aided instruction for teaching PL/ACME.          |                                  |                       | Cor                   | 176.8                    | 55.653                    | 9.617                                |

## SUMMARY OF COMPUTER RESOURCE USAGE

April 17, 1972 - April 16, 1973

\*Cor = Core Research and Development  
C = Collaborative  
S = Service  
T = Training

| INVESTIGATOR   | DEPARTMENT/<br>INSTITUTION  | PROJECT TITLE   | DIRECT GRANT OR CONTRACT SUPPORT |                       | BRR<br>Cate-<br>gory* | AMOUNT OF USAGE  |                          |  |
|--|-----------------------------|---|----------------------------------|-----------------------|-----------------------|------------------|--------------------------|--|
|  |                             |   | Identifying<br>Number            | Agency<br>Annual Amt. |                       | BATCH<br>Minutes | Terminal Access<br>Hours | Block Storage(K)<br>(Block=2K Bytes)       |
| Category 7 (cont'd.)                                 | Staff (FREE)                |   |                                  |                       |                       |                  |                          | @ \$.10 per block                          |
| Weyl, Steve  | ACME                        | DATABASE: Development of Time-Oriented Database System (TOD).   |                                  |                       | Cor                   |                  | 144.0                    | @ \$.02 per page/minute<br>58.151<br>2.556 |
| Weyl, Steve  | ACME                        | SWEYL: Applications program development.  |                                  |                       | Cor                   |                  | 215.0                    | 129.489<br>1.972                           |
| Weyl, Steve  | ACME                        | SMAC: Applications program development.   |                                  |                       | Cor                   |                  | 0.0                      | 0.004                                      |
| Whitner, Jane  | ACME                        | STATISTI: Statistical program development.  |                                  |                       | Cor                   |                  | 508.4                    | 217.727<br>4.105                           |
| Whitner, Jane  | ACME                        | STATTEST: Statistical program development.  |                                  |                       | Cor                   |                  | 0.0                      | 0.0  |
| Wiederhold, Gio                                      | ACME                        | TEST: System testing.   |                                  |                       | Cor                   |                  | 126.0                    | 31.051<br>10.168                           |
| Wiederhold, Gio                                      | ACME                        | CSMP: Continuous system modelling program development.  |                                  |                       | Cor                   |                  | 0.0                      | 0.0  |
| Wiederhold, Gio                                      | ACME                        | DEMO: Demonstration for ACME visitors.  |                                  |                       | Cor                   |                  | 27.0                     | 12.370<br>1.521                            |
| Wiederhold, Voy                                      | ACME                        | MANUAL: Maintenance of PL/ACME Manual.  |                                  |                       | Cor                   |                  | 120.6                    | 19.136<br>15.446                           |
| ACME Staff   | ACME                        | JQPUBLIC: Development and storage of PUBLIC files.  |                                  |                       | Cor                   |                  | 72.1                     | 25.534<br>9.554                            |
| ACME Staff   | ACME                        | DATABANK.TODD: Public file of Time-Oriented database (TOD) programs.  |                                  |                       | Cor                   |                  | 48.4                     | 20.743<br>0.366                            |
| ACME Systems Staff                                   | ACME                        | PROGRAMS: Collection of systems programs.   |                                  |                       | Cor                   |                  | 12.0                     | 3.748<br>2.579                             |
| IBM Customer Engineers                               | IBM                         | I CE TERMDIAG: Terminal testing and diagnosis.  |                                  |                       | Cor                   |                  | 48.0                     | 12.550<br>0.135                            |
| PL/ACME Classes                                      | ACME                        | PLACME: Practice programming for PL/ACME classes.   |                                  |                       | T                     |                  | 326.2<br>5067.0          | 106.272<br>1.925<br>180.555                |
| Category 8 Stanford University Hospital (CHARGEABLE) |                             |   |                                  |                       |                       |                  |                          | @ \$.017 per page/minute                   |
| Barber, Vic  | SUH Data Processing         | SURDP: Accounting   | ---                              | Hosp. Funds           | S                     |                  | 16.8                     | 7.300<br>0.957                             |
| Barber, Vic  | SUH Data Processing         | MEDELCO: Statistical survey for a data collection/transmission system.  | ---                              | Hosp. Funds           | S                     |                  | 211.9                    | 460.017<br>32.005                          |
| Daly, Virginia                                       | SUH Clinical Lab-Immunology | CH50: Establishment of normal values for human serum total complement levels and clinical tests on patients to determine their level. | ---                              | Hosp. Funds           | S                     |                  | 11.7                     | 4.464<br>0.072                             |

## SUMMARY OF COMPUTER RESOURCE USAGE

April 17, 1972 - April 16, 1973

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| INVESTIGATOR             | DEPARTMENT/<br>INSTITUTION                 | PROJECT TITLE  | DIRECT GRANT OR<br>Identifying<br>Number | CONTRACT SUPPORT |                        | BRR<br>Cate-<br>gory* | AMOUNT OF USAGE<br>TIME SHARING |                                   |                                      |
|--------------------------|--|--|--|------------------|------------------------|-----------------------|---------------------------------|-----------------------------------|--------------------------------------|
|                          |  |  |  | Agency           | Current<br>Annual Amt. |                       | Terminal Access<br>Hours        | Pageminutes (K)                   | Block Storage(K)<br>(Block=2K Bytes) |
| Category 8 (cont'd.)     | Stanford University Hospital (CHAMBERLAIN) |  |  |                  |                        |                       |                                 |                                   |                                      |
| Forrest, William         | SUH Clinic                                 | SCHEDULE: Automation of monthly scheduling of doctors for "on call" duty.  | ---                                      | Clinic Budget    | ---                    | S                     | 48.2                            | @ \$.017 per pageminute<br>27.398 | @ \$.10 per block<br>2.202           |
| Petralli, John           | SUH Clinical Lab-Infectious Diseases       | MED DATA: Computer method for improvement of antibiotic sensitivity data and guidance in therapy.  | ---                                      | Hosp. Funds      | ---                    | S                     | 2035.0                          | 777.931                           | 84.559                               |
| Petralli, John           | SUH Clinical Lab-Infectious Diseases       | PROGRESS: Program development for Infectious Disease Lab computing.  | ---                                      | Hosp. Funds      | ---                    | S                     | 14.4                            | 2.293                             | 1.931                                |
| Petralli, John           | SUH Clinical Lab-Infectious Diseases       | INFCON: Infection control: data on isolation patients.   | ---                                      | Hosp. Funds      | ---                    | S                     | 104.1                           | 16.271                            | 1.834                                |
| Sussman, Howard          | SUH Clinical Lab-Pathology                 | CLOS0957: Statistical analysis programs for data generated by Clinical Laboratory Information System.  | ---                                      | Hosp. Funds      | ---                    | S                     | 175.7<br>SUB-TOTAL 2617.8       | 42.753<br>1338.427                | 1.242<br>124.802                     |
| Category 10 Realtime     | Pilot and Pending Proposal (FREE)          |  |  |                  |                        |                       |                                 |                                   |                                      |
| Bunnenberg, Edward       | Chemistry                                  | CHEM: Development of a magnetic circular dichroism biotechnology resource.   |  |                  |                        | S                     | 78.1                            | @ \$.02 per pageminute<br>144.557 | @ \$.10 per block<br>8.390           |
| Kadis, Leslie            | Anesthesia                                 | VISAEP: Visual average evoked potential to graded light intensity as a correlate of pain threshold.  |  |                  |                        | S                     | 34.0<br>SUB-TOTAL 112.1         | 29.388<br>173.945                 | 0.410<br>8.800                       |
| Category 11 Non-Realtime | Pilot and Pending Proposal (FREE)          |  |  |                  |                        |                       |                                 |                                   |                                      |
| Belt, Donald             | Otolaryngology                             | HEAR: Collection and processing of hearing loss data.  |  |                  |                        | S                     | 0.0                             | @ \$.02 per pageminute<br>0.0     | @ \$.10 per block<br>0.072           |
| Cavalli, Luca            | Genetics                                   | LAURA: Data analysis on population Genetics.   |  |                  |                        | S                     | 190.9                           | 106.758                           | 2.440                                |
| Cohen, Leon              | Neurology                                  | MOTOR: Statistical analysis of single motor unit action potentials recorded from normals and patients. Aim is to develop diagnostic method for diseases of peripheral nerves and muscle. |  |                  |                        | S                     | 13.6                            | 15.780                            | 0.960                                |
| Schwartz, Donald         | Anesthesia                                 | RESPOT: Calculation of cardiac indices; correlation with blood ionized calcium levels.   |  |                  |                        | S                     | 10.9<br>SUB-TOTAL 215.4         | 7.020<br>129.558                  | 0.138<br>3.670                       |

## SUMMARY OF COMPUTER RESOURCE USAGE

\*Cor = Core Research and Development  
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April 17, 1972 - April 16, 1973

| INVESTIGATOR                                     | DEPARTMENT/<br>INSTITUTION | PROJECT TITLE  | DIRECT GRANT OR CONTRACT SUPPORT |                       | BRR<br>Cate-<br>gory**              | AMOUNT OF USAGE  |                          |  |  |
|--|----------------------------|--|----------------------------------|-----------------------|-------------------------------------|------------------|--------------------------|--|--|
|  |                            |  |                                  |                       |                                     | BATCH<br>Minutes | Terminal Access<br>Hours | Pageminutes (K)                        | Block Storage (K)<br>(Blocks=2K Bytes) |
|  |                            |  | Identifying<br>Number            | Agency<br>Annual Amt. |                                     |                  |                          |  |  |
| Category 12 Realtime,                            | Extended Non-Funded (FREE) |  |                                  |                       |                                     |                  |                          |  |  |
| Constantinou, Christos                           | Urology                    | URO: Investigation of upper<br>urinary tract physiology.   |                                  |                       | S                                   |                  | 130.8                    | @ \$.02 per<br>page/minute<br>107.699  | @ \$.10 per block<br>1.173             |
|  |                            |  |                                  |                       |                                     | SUB-TOTAL        | 130.8                    | 107.699                                | 1.173                                  |
| Category 13 Non-Realtime,                        | Extended Non-Funded (FREE) |  |                                  |                       |                                     |                  |                          |  |  |
| Leiderman, P. Herbert                            | Psychiatry                 | KEWA: Analysis of data collected in<br>Kenya, relating the effect of social<br>structure of primary family on<br>infants' social attachments in the<br>first year of life. |                                  |                       | S                                   |                  | 4.3                      | @ \$.02 per<br>page/minute<br>1.359    | @ \$.10 per block<br>1.796             |
|  |                            |  |                                  |                       |                                     | SUB-TOTAL        | 4.3                      | 1.359                                  | 1.796                                  |
| Category 16 Combination of                       | Core Research              | and Application (CHARGEABLE)   |                                  |                       |                                     |                  |                          |  |  |
| Sera, Hiram                                      | SIH Pharmacy               | ALEP: Drug Interaction Project,<br>hospital pharmacy service.  | ---                              | Hosp.<br>Funds        | S                                   |                  | 3670.2                   | @ \$.12 per<br>page/minute<br>7456.016 | @ \$.10 per block<br>95.581            |
|  |                            |  |                                  |                       |                                     | SUB-TOTAL        | 3670.2                   | 7456.016                               | 95.581                                 |
| Category 17 Operations (FREE)                    |                            |  |                                  |                       |                                     |                  |                          |  |  |
| Class, Charles                                   | ACME                       | ACME: Operations management; system<br>testing and demonstration.  |                                  |                       | Cor                                 |                  | 6710.0                   | @ \$.02 per<br>page/minute<br>4800.367 | @ \$.10 per block<br>10.425            |
| Cover, Rich                                      | ACME                       | FLOWERD: Daily operations.   |                                  |                       | Cor                                 |                  | 174.3                    | 78.438                                 | 2.903                                  |
| Matous, James                                    | ACME                       | GET: Daily operations.   |                                  |                       | Cor                                 |                  | 0.0                      | 0.0                                    | 0.600                                  |
| Montgomery, Rich                                 | Computation<br>Center      | KP: Text editing.  |                                  |                       | Cor                                 |                  | 0.0                      | 0.0                                    | 0.004                                  |
| Rienan, James                                    | ACME                       | VAT: Daily operations.   |                                  |                       | Cor                                 |                  | 3.9                      | 0.816                                  | 0.322                                  |
| Sutter, Jan                                      | ACME                       | ACME: Daily operations.  |                                  |                       | Cor                                 |                  | 53.4                     | 6.838                                  | 3.994                                  |
|  |                            |  |                                  |                       |                                     | SUB-TOTAL        | 6941.6                   | 4886.459                               | 18.268                                 |
| Category 9 Non-Health-Related Users (CHARGEABLE) |                            |  |                                  |                       |                                     |                  |                          |  |  |
|  |                            |  |                                  |                       |                                     |                  |                          | @ \$.02 per<br>page/minute             | @ \$.10 per block                      |
|  |                            |  |                                  |                       |                                     | SUB-TOTAL        | 576.3                    | 340.154                                | 23.388                                 |
|  |                            |  |                                  |                       |                                     |                  |                          |  |  |
|  |                            |  |                                  |                       | GRAND TOTAL                         | 6.976            | 122764.5                 | 31920.861                              | 1420.727                               |
|  |                            |  |                                  |                       | GRAND TOTAL<br>EXCLUDING PHARMACY** | 6.976            | 119094.3                 | 24464.845                              | 1325.146                               |

\*\*These totals are shown because Pharmacy utilization involved many pageminutes but little actual computing. The usage distorts the "page/minute" as a measure of overall system use.

due to failures

Percentage of scheduled time  
not available to users 2.1%

RESOURCE USAGE

April 16, 1973

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S = Service  
T = Training

| CR CONTRACT SUPPORT |                        | BRR<br>Category | AMOUNT OF USAGE |                          |                  | Block Storage(K)<br>(Block=2K Bytes) |
|---------------------|------------------------|-----------------|-----------------|--------------------------|------------------|--------------------------------------|
|                     |                        |                 | BATCH           | Terminal Access<br>Hours | Page Minutes (K) |                                      |
| Agency              | Current<br>Annual Amt. |                 | Minutes         |                          |                  |                                      |
| Development         | Number of<br>Projects  |                 |                 |                          |                  |                                      |
|                     | 69                     |                 |                 | 16920.5                  | 12511.209        | 461,004                              |
|                     | 18                     |                 | 6,976           | 4663.7                   | 3681.548         | 254,657                              |
|                     | 176                    |                 |                 | 98208.8                  | 14281.907        | 626,183                              |
|                     | 61                     |                 |                 | 2395.2                   | 1106.043         | 55,489                               |
| Arch                | 324                    |                 | 6,976           | 122188.2                 | 31580.707        | 1397,339                             |
|                     | 23                     |                 |                 | 576.3                    | 340.154          | 23,388                               |
|                     | 347                    |                 | 6,976           | 122764.5                 | 31920.861        | 1420,727                             |

SUMMARY OF COMPUT

April 17, 1972

| INVESTIGATOR  | DEPARTMENT/<br>INSTITUTION | PROJECT TITLE        | DIRECT GRA<br>Identify<br>Number |
|---|----------------------------|----------------------|----------------------------------|
| Time scheduled for users<br>Time not available to users |                            | Core Research and De |                                  |
|   |                            | Collaborative        |                                  |
|   |                            | Service              |                                  |
|   |                            | Training             |                                  |
|   |                            | SUB-TOTAL            |                                  |
|   |                            | Non-Health-Related R |                                  |
|   |                            | GRAND TOTAL          |                                  |

6063 hours  
128 hours

VIII. APPENDICES

- A. Rationale of Shared Data Base Concept
- B. Medical Center Computer Planning Chronology
- C. Small Machine Multiplexor  
(Excerpt of ACME Note HAD.)
- D. ACME Note Index (May 11, 1973)
- E. ACME User Publications



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APPENDIX A

DATE: March 16, 1973

To : P. Carpenter

FROM : E. Levinthal

SUBJECT: Rationale of Shared Data Base Concept

This memorandum elaborates the rationale supporting the shared data base concept as it relates to the Medical Center Computing Facility. Computing at the Medical School can be categorized as follows:

1. Use of in-patient or out-patient data by clinical departments.  
This involves, in varying amounts, three components, a) teaching, b) research, c) patient-service management (i.e. fees, records, bills, etc.).
2. Non-patient related computing by clinical departments.  
This part is only indirectly related to the shared data base issue. Insofar as clinical faculty are using a computer resource for their patient related computing needs, they are apt, as a matter of convenience and familiarity, to want to use the same facility for the remainder of their needs. This will be modulated by considerations of price and services offered.
3. Non-patient related computing carried out by non-clinical faculty. This is clearly unrelated to the data base concept. It is, of course, related to the cost and services offered on the 370/158 system compared to those offered elsewhere. Many of these users take advantage of functions which call statistical routines and which are now built into the PL/ACME system. These will also be an important requirement of users in categories 1 and 2. In this case therefore the issue (as in category 2) is the service rendered, not the data base.

Addressing solely category one, memoranda were solicited from several members of this class. The responses are attached\* and provide support for the shared data base concept.

There is clearly a momentum to use computers to handle patient related problems. Faculty are able to find resources to pursue these problems and will pursue them whether or not a shared data base in a central computer system is available. In principle the communication link researcher-to-researcher and researcher-to-business office are transactions that can be carried out by movement of paper or digital tapes or hardware interfaces between stand-alone facilities.

\*Memos attached from Drs. Cohen, Fries, Harrison and Merigan.